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## RESPIRATORY PROTECTION PROGRAM

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## RESPIRATORY PROTECTION PROGRAM

### **Definitions**

Definitions. The following definitions are important terms used in the respiratory protection program.

***Air-purifying respirator*** means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

***Atmosphere-supplying respirator*** means a respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, and includes supplied-air respirators (SARs) and self-contained breathing apparatus (SCBA) units.

***Canister or cartridge*** means a container with a filter, sorbent, or catalyst, or combination of these items, which removes specific contaminants from the air passed through the container.

***Demand respirator*** means an atmosphere-supplying respirator that admits breathing air to the face piece only when a negative pressure is created inside the face piece by inhalation.

***Emergency situation*** means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment that may or does result in an uncontrolled significant release of an airborne contaminant.

***Employee exposure*** means exposure to a concentration of an airborne contaminant that would occur if the employee were not using respiratory protection.

***End-of-service-life indicator (ESLI)*** means a system that warns the respirator user of the approach of the end of adequate respiratory protection, for example, that the sorbent is approaching saturation or is no longer effective.

***Escape-only respirator*** means a respirator intended to be used only for emergency exit.

***Filter or air purifying element*** means a component used in respirators to remove solid or liquid aerosols from the inspired air.

***Filtering face piece (dust mask)*** means a negative pressure particulate respirator with a filter as an integral part of the face piece or with the entire face piece composed of the filtering medium.

***Fit factor*** means a quantitative estimate of the fit of a particular respirator to a specific individual, and typically estimates the ratio of the concentration of a substance in ambient air to its concentration inside the respirator when worn.

***Fit test*** means the use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual. (See also Qualitative fit test QLFT and Quantitative fit test QNFT.)



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**High efficiency particulate air (HEPA) filter** means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter. The equivalent NIOSH 42 CFR 84 particulate filters are the N100, R100, and P100 filters.

**Immediately dangerous to life or health (IDLH)** means an atmosphere that poses an immediate threat to life, would cause irreversible adverse health effects, or would impair an individual's ability to escape from a dangerous atmosphere.

**Loose-fitting face piece** means a respiratory inlet covering that is designed to form a partial seal with the face.

**Negative pressure respirator (tight fitting)** means a respirator in which the air pressure inside the face piece is negative during inhalation with respect to the ambient air pressure outside the respirator.

**Oxygen deficient atmosphere** means an atmosphere with an oxygen content below 19.5% by volume.

**Physician or other licensed health care professional (PLHCP)** means an individual whose legally permitted scope or practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services required by subsection (e).

**Positive pressure respirator** means a respirator in which the pressure inside the respiratory inlet covering exceeds the ambient air pressure outside the respirator.

**Powered air-purifying respirator (PAPR)** means an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

**Pressure demand respirator** means a positive pressure atmosphere-supplying respirator that admits breathing air to the face piece when the positive pressure is reduced inside the face piece by inhalation.

**Qualitative fit test (QLFT)** means a pass/fail fit test to assess the adequacy of respirator fit that relies on the individual's response to the test agent.

**Quantitative fit test (QNFT)** means an assessment of the adequacy of respirator fit by numerically measuring the amount of leakage into the respirator.

**Respiratory inlet covering** means that portion of a respirator that forms the protective barrier between the user's respiratory tract and an air-purifying device or breathing air source, or both. It may be a face piece, helmet, hood, suit, or a mouthpiece respirator with nose clamp.

**Self-contained breathing apparatus (SCBA)** means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.



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***Service life*** means the period of time that a respirator, filter or sorbent, or other respiratory equipment provides adequate protection to the wearer.

***Supplied-air respirator (SAR) or airline respirator*** means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

***Tight-fitting face piece*** means a respiratory inlet covering that forms a complete seal with the face.

***User seal check*** means an action conducted by the respirator user to determine if the respirator is properly seated to the face.



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## RESPIRATORY PROTECTION PROGRAM

**Program: Respiratory Protection Program**

**Facility: Waimanalo Gulch Sanitary Landfill**

**Facility Location:** 92-460 Farrington Highway, Kapolei, HI96707

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### **Respiratory Protection Program**

This Respiratory Protection Program sets forth the policies and procedures implementing the **Cal/OSHA Respirator Standard [8 CCR § 5144]** at **Waimanalo Gulch Sanitary Landfill (WGSL)**.

The Respiratory Protection Program Administrator is **Joe Whelan OR Donny Carder**. This person is responsible for all facets of the program and has full authority to make necessary decisions to ensure success of this program. His/her authority includes hiring personnel and purchasing equipment necessary to implement and operate the program.

### **Respiratory Hazards and Respirator Selection**

**WGSL** has conducted exposure monitoring and/or made reasonable estimation of potential exposures to hazardous substances and their exposure limits in our workplace. We have selected the following respiratory protection devices for routine operations, maintenance and other non-routine activities, and variable situations.

#### **Routine Operations**

<b>Work Area Operation</b>	<b>Chemical/Substance</b>	<b>PEL/STEL</b>	<b>Exposure Estimates</b>	<b>Respirator and Cartridge</b>



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## RESPIRATORY PROTECTION PROGRAM

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## RESPIRATORY PROTECTION PROGRAM

### Maintenance and Other Non-Routine Tasks

Work Area Operation	Chemical/Substance	PEL/STEL	Exposure Estimates	Respirator and Cartridge

### Variable Situations

The Respirator Program Administrator will prepare a reasonable exposure estimate and select an appropriate respirator based on the maximum, following protection factors: up to 10 X PEL/STEL half-face air purifying; up to 50 X PEL/STEL full-face air purifying; and 50 X PEL/STEL SCBA with pressure demand air supply.

### Emergency Respirator Use

In the event of an emergency, the following respiratory protection will be used:

Work Area/Operation	Chemical/Emergency	Respirator Required



### Medical Evaluation

All employees who are assigned to wear respirators (except for employees who voluntarily use filtering dust masks) will be provided and receive medical evaluation initially upon assignment of the respiratory protection device and periodically thereafter as directed by a physician or other licensed health care professional (PLHCP). Medical evaluations will be conducted using the following procedures:

- 1) Employees will complete [**Respirator Medical Evaluation Questionnaire--Appendix A**] Assistance will be available, however **WGS** will not review any of the information recorded on the form. We will provide the completed questionnaires to the PLHCP in a sealed envelope.
- 2) We will schedule employees for PLHCP examinations. The PLHCP will provide a completed *Respirator User Medical Evaluation Report* or its equivalent directly to the employer.
- 3) Employees will be assigned to respirator use positions based on the results of the medical evaluation.
- 4) Periodic medical evaluations will be based on Dr. **TBD** recommendation or whenever an employee answers questions 1 through 8 in Section 2 Part A of the *Respirator Medical Evaluation Questionnaire* positively.
- 5) The following items will be provided to the physician:
  - a. The type and weight of the respirator to be used by the employee;
  - b. The duration and frequency of respirator use;
  - c. The expected physical work effort;
  - d. Additional protective clothing and equipment to be worn;
  - e. Temperature and humidity extremes that may be encountered; and
  - f. A copy of this written program.

### Fit-Testing

Respirators must fit properly to provide protection. If a tight seal is not maintained between the face piece and the employee's face, contaminated air will be drawn into the face piece and be inhaled by the employee. Fit testing seeks to protect the employee against inhaled contaminated ambient air and is one of the core provisions of our respirator program.

In general, fit testing may be either qualitative or quantitative. Qualitative fit testing (QLFT) involves the introduction of a gas, vapor, or aerosol test agent into an area around the head of the respirator user. If that user can detect the presence of the test agent through subjective means, such as odor, taste, or irritation, the respirator fit is inadequate.

In a quantitative respirator fit test (QNFT), the adequacy of respirator fit is assessed by measuring the amount of leakage into the respirator, either by generating a test aerosol as a test atmosphere, using ambient aerosol as a test agent, or using controlled negative pressure to measure the volumetric leak rate. Appropriate instrumentation is required to quantify respirator fit in QNFT.



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Employees are fit tested at the following times with the same make, model, style, and size of respirator that will be used:

- Before any of our employees are required to use any respirator with a negative or positive pressure tight-fitting face piece;
- Whenever a different respirator face piece (size, style, model, or make) is used;
- At least annually;
- Whenever the employee reports, or our company, PLHCP, supervisor, or Program Administrator makes visual observations of changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight; and
- When the employee, subsequently after passing a QLFT or QNFT, notifies the company, Program Administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable. That employee will be retested with a different respirator face piece.

Employees must pass one of the following fit test types that follow the protocols and procedures:

- QLFT (Only used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less. May be used to test tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode); or
- QNFT (May be used to fit test a tight-fitting half face piece respirator that must achieve a fit factor of 100 or greater OR a tight-fitting full face piece respirator that must achieve a fit factor of 500 or greater OR tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators if tested in the negative pressure mode).

Our workplace-specific fit testing procedures include the following:

### **Qualitative fit testing (QLFT)**

Fit testing will be documented using [Employee Annual Respirator Fit-Test and Training Record--Appendix B] on an annual basis.

### **Training**

Employees who are assigned to wear respirators will be provided annual training at or about the time of fit testing. This training will include the following elements:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
- The limitations and capabilities of each respirator used;
- How to use the respirator effectively in emergency situations, including situations where the respirator malfunctions;
- How to inspect, don and remove, use, and check the seals of the respirator;
- The procedures for maintenance and storage of the respirator;



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## RESPIRATORY PROTECTION PROGRAM

- Recognition of medical signs and symptoms that may limit or prevent the effective use of respirators;
- The general requirements of our company's program and the standard.

This training will be repeated at least annually and will be documented using an *Employee Annual Respirator Fit-Test and Training Record*.

Supplement training will be provided as necessary based on the following factors:

- Changes in the workplace or a new type of respirator;
- Demonstrated inadequacies in an employee's knowledge or use of the respirator; or
- Any other situation in which retraining appears necessary to ensure safe respirator use.

Individuals using a tight-fitting respirator will be trained on **[User Seal Check Procedures--Appendix C]**.

### **Cleaning, Storage and Maintenance of Respirators**

#### **Routine-Use Respirators (individually assigned respirators)**

We will provide supplies and parts necessary to assure proper sanitation and maintenance of any respirator assigned to an individual employee.

Employees will keep their respirators clean and disinfected at all times. **[Respirator Cleaning Procedures--Appendix D]**.

Each respirator must be inspected before each use and during cleaning for proper functioning of all parts and components:

1. A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the face piece, head straps, valves, connecting tube, and cartridges, canisters or filters; and
2. A check of elastic parts for pliability and signs of deterioration.

#### **Non-Routine Use Respirator (emergency and non-individually assigned respirators).**

WGSL will provide each respirator user with a respirator that is clean, sanitary, and in good working order. Respirators will be cleaned and disinfected before being worn by different individuals. Respirators maintained for emergency use will be cleaned and disinfected after each use and respirators used in fit testing training will be cleaned and disinfected after each use.

#### **Storage of Routine-Use Respirators**

All respirators will be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they will be packed or stored to prevent deformation of the face piece and exhalation valve.



### **Storage of Emergency Respirators**

Emergency respirators will be:

- Kept accessible to the work area;
- Stored in compartments or in covers that are clearly marked as containing emergency respirators;
- Stored in accordance with any applicable manufacture instructions;
- All respirators maintained for use in emergency situations will be inspected at least monthly and in accordance with the manufacture's recommendations, and will be checked for proper function before and after each use;
- Emergency escape-only respirators will be inspected before being carried into the workplace for use; and
- Inspections are documented by a tag or written/electronic inspection record.

### **Inspection and Maintenance of Self-Contained Breathing Apparatus (SCBA)**

SCBA devices (emergency and non-emergency) will be inspected monthly. Air and oxygen cylinders will be maintained in a fully charged state and will be recharged when the pressure falls to 90% of the manufacture's recommended pressure level. **WGSL** will determine that the regulator and warning devices function properly.

### **Air Quality for Self-Contained and Air Line Devices**

- Compressed and liquid oxygen (if used) must meet the United State Pharmacopoeia requirements for medical or breathing oxygen.
- Compressed breathing air will meet at least the requirements for Grade D breathing air described in the ANSI/Compressed Gas Association Commodity Specification for
- Air, G-7.1-1989, including: oxygen content (v/v) of 19.5-23.5%; hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less; carbon monoxide (CO) content of 10 ppm or less; carbon dioxide content of 1,000 ppm or less; and lack of noticeable odor.
- Compressed oxygen will not be used in atmosphere-supply respirators that have previously been used for compressed air.
- Oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.
- Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178).
- Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements of Grade D breathing air.
- The moisture content in the cylinder does not exceed a dew point of -50 deg. F (-45.6 deg. C) at a 1-atmosphere pressure.



### *Compressor Systems*

Compressors used to supply breathing air to respirators are constructed and situated so as to:

- Prevent entry of contaminated air into the air-supply systems.
- Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 deg. F (-5.56 deg. C) below the ambient temperature.
- Have suitable in-line air-purifying sorbent beds and filters to further ensure that the quality of breathing air is maintained by following the manufacturer's instructions.
- Have a tag maintained at the compressor that contains the most recent change date and the signature of the person authorized by the company to perform the change.
- For compressors that are not oil-lubricated, a means to assure that carbon monoxide levels in the breathing air do not exceed 10 ppm.
- For oil-lubricated compressors, a high-temperature or carbon monoxide alarm, or both, is used to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply will be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.
- Breathing air couplings are incompatible with outlets for non-respirable worksite air or other gas systems. No asphyxiating substance will be introduced into breathing air lines.
- Only breathing gas containers marked in accordance with the NIOSH respirator certification standard [42 CFR §84] are used.

### **Voluntary Respirator Use**

#### **Filtering Masks**

Employees who use filtering masks in situations that do not otherwise require the use of a respirator are not covered by this program.

#### **Tight-fitting Respirators**

Employees who use tight-fitting respirators when respirators are not otherwise required are subject only to the following provisions of this program:

- Medical evaluation;
- Cleaning and sanitation;
- Storage; and
- **[Information for Employees Using Respirators When Not Required Under the Standard--Appendix E]**



### **Change Schedule**

For vapor or gas air purifying respirators the two systems in place to warn respirator wearers of contaminant breakthrough include using respirator cartridges equipped with an end-of-service life indicator (ESLI) or using a cartridge replacement schedule based on manufacturer breakthrough test data.

Employees using cartridges not equipped with ESLIs must replace cartridges in accordance with the instruction. When air purifying respirators with cartridges are used the cartridges must be changed out:

A minimum of every 30 days; or

Whenever an employee feels that they have become saturated and / or experiences breakthrough.

- At the beginning of each shift.
- At more frequent intervals.
- Air purifying cartridges absorb moisture and / or contaminants once they are exposed to the atmosphere. Respirators should not be stored with air purifying cartridges attached. Once opened, a package of cartridges should be considered reliable for one work shift (8 hours).

Protection for Particulates, Mists, and Fumes:

- Either atmosphere-supplying respirators or air purifying respirators with appropriate filters may be used for protection from particulates, mists, and fumes.
- When air purifying respirators with filters are used the filters must be changed out:  
Whenever an employee feels the filters have become clogged and / or experiences difficulty breathing.

For respirators worn exclusively for protection against particles, filters will be changed per the manufacturer's specification and whenever the wearer detects a change in breathing resistance.

Air supply unit will have filter replaced at manufacturer specified times and documented

### **Policy of Providing Respirators and Medical Evaluations at No Cost to the Employee**

Employees will be provided respirators, medical evaluations and other requirements of the respirator standard at no cost to them.

### **Annual Program Evaluation**

An annual evaluation of the respirator program will be conducted by the **WGSL**. The evaluation will be conducted by the Respirator Program Administrator and will consist of:



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## RESPIRATORY PROTECTION PROGRAM

- A review of the written respiratory protection program to assure that it is up-to-date, effective and is being properly implemented;
- Observation to ensure that employees are using the respirators properly;
- Consultation with an employee representative to assess the employees' views on program effectiveness and to identify any problems;
- Checking respirator fit (including the ability to use the respirator without interfering with effective workplace performance);
- Checking appropriate respirator selection for the hazards to which employees are exposed;
- Requiring proper respirator use under the workplace conditions the employee encounters; and
- Proper respirator maintenance.

Any problems that are identified during this assessment will be corrected.

Periodic Evaluations will be documented using the **[Periodic Respirator Program Evaluation Form--Attachment F]**.



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## RESPIRATORY PROTECTION PROGRAM

### **Recordkeeping**

Compliance with the elements of the standard including medical evaluations, fit testing, training, and periodic evaluation of the respirator program will be maintained for a minimum of three (3) years.

The program will be located in the WGSL office.

Approved by:

Title:

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Print Name

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Signature

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Date



## RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

### OSHA RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE (MANDATORY)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's Date: \_\_\_\_\_
2. Your name: \_\_\_\_\_
3. Your age (to nearest year) : \_\_\_\_\_
4. Sex (circle one): Male/Female
5. Your height: \_\_\_\_\_ ft. \_\_\_\_\_ in.
6. Your weight: \_\_\_\_\_ lbs.
7. Your job title: \_\_\_\_\_
8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): \_\_\_\_\_
9. The best time to phone you at this number: \_\_\_\_\_
10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No
11. Check the type of respirator you will use (you can check more than one category):
  - a. \_\_\_\_\_ N, R, or P disposable respirator (filter-mask, non- cartridge type only).
  - b. \_\_\_\_\_ Other type (for example, half- or full-face piece type, powered-air purifying, supplied-air, self-contained breathing apparatus).
12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s):

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Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").



## RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month: Yes/No
2. Have you ever had any of the following conditions?
  - a. Seizures (fits): Yes/No
  - b. Diabetes (sugar disease): Yes/No
  - c. Allergic reactions that interfere with your breathing: Yes/No
  - d. Claustrophobia (fear of closed-in places): Yes/No
  - e. Trouble smelling odors: Yes/No
3. Have you ever had any of the following pulmonary or lung problems?
  - a. Asbestosis: Yes/No
  - b. Asthma: Yes/No
  - c. Chronic bronchitis: Yes/No
  - d. Emphysema: Yes/No
  - e. Pneumonia: Yes/No
  - f. Tuberculosis: Yes/No
  - g. Silicosis: Yes/No
  - h. Pneumothorax (collapsed lung): Yes/No
  - i. Lung cancer: Yes/No
  - j. Broken ribs: Yes/No
  - k. Any chest injuries or surgeries: Yes/No
  - l. Any other lung problem that you've been told about: Yes/No
4. Do you currently have any of the following symptoms of pulmonary or lung illness?
  - a. Shortness of breath: Yes/No
  - b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No
  - c. Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No
  - d. Have to stop for breath when walking at your own pace on level ground: Yes/No
  - e. Shortness of breath when washing or dressing yourself: Yes/No
  - f. Shortness of breath that interferes with your job: Yes/No
  - g. Coughing that produces phlegm (thick sputum): Yes/No
  - h. Coughing that wakes you early in the morning: Yes/No
  - i. Coughing that occurs mostly when you are lying down: Yes/No
  - j. Coughing up blood in the last month: Yes/No
  - k. Wheezing: Yes/No
  - l. Wheezing that interferes with your job: Yes/No
  - m. Chest pain when you breathe deeply: Yes/No
  - n. Any other symptoms that you think may be related to lung problems: Yes/No
5. Have you ever had any of the following cardiovascular or heart problems?
  - a. Heart attack: Yes/No
  - b. Stroke: Yes/No
  - c. Angina: Yes/No
  - d. Heart failure: Yes/No
  - e. Swelling in your legs or feet (not caused by walking): Yes/No
  - f. Heart arrhythmia (heart beating irregularly): Yes/No
  - g. High blood pressure: Yes/No
  - h. Any other heart problem that you've been told about: Yes/No
6. Have you ever had any of the following cardiovascular or heart symptoms?
  - a. Frequent pain or tightness in your chest: Yes/No
  - b. Pain or tightness in your chest during physical activity: Yes/No
  - c. Pain or tightness in your chest that interferes with your job: Yes/No



## RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

- d. In the past two years, have you noticed your heart skipping or missing a beat: Yes/No
  - e. Heartburn or indigestion that is not related to eating: Yes/ No
  - f. Any other symptoms that you think may be related to heart or circulation problems: Yes/No
7. Do you currently take medication for any of the following problems?
- a. Breathing or lung problems: Yes/No
  - b. Heart trouble: Yes/No
  - c. Blood pressure: Yes/No
  - d. Seizures (fits): Yes/No
8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)
- a. Eye irritation: Yes/No
  - b. Skin allergies or rashes: Yes/No
  - c. Anxiety: Yes/No
  - d. General weakness or fatigue: Yes/No
  - e. Any other problem that interferes with your use of a respirator: Yes/No
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-face piece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you ever-lost vision in either eye (temporarily or permanently): Yes/No
11. Do you currently have any of the following vision problems?
- a. Wear contact lenses: Yes/No
  - b. Wear glasses: Yes/No
  - c. Color blind: Yes/No
  - d. Any other eye or vision problem: Yes/No
12. Have you ever had an injury to your ears, including a broken ear drum: Yes/No
13. Do you currently have any of the following hearing problems?
- a. Difficulty hearing: Yes/No
  - b. Wear a hearing aid: Yes/No
  - c. Any other hearing or ear problem: Yes/No
14. Have you ever had a back injury: Yes/No
15. Do you currently have any of the following musculoskeletal problems?
- a. Weakness in any of your arms, hands, legs, or feet: Yes/No
  - b. Back pain: Yes/No
  - c. Difficulty fully moving your arms and legs: Yes/No
  - d. Pain or stiffness when you lean forward or backward at the waist: Yes/No
  - e. Difficulty fully moving your head up or down: Yes/No
  - f. Difficulty fully moving your head side to side: Yes/No
  - g. Difficulty bending at your knees: Yes/No
  - h. Difficulty squatting to the ground: Yes/No
  - i. Climbing a flight of stairs or a ladder carrying more than 25 lbs.: Yes/No
  - j. Any other muscle or skeletal problem that interferes with using a respirator: Yes/No



## RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

Part B Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If "yes," name the chemicals if you know them:

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3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

- a. Asbestos: Yes/No
- b. Silica (e.g., in sandblasting): Yes/No
- c. Tungsten/cobalt (e.g., grinding or welding this material): Yes/No
- d. Beryllium: Yes/No
- e. Aluminum: Yes/No
- f. Coal (for example, mining): Yes/No
- g. Iron: Yes/No
- h. Tin: Yes/No
- i. Dusty environments: Yes/No
- j. Any other hazardous exposures: Yes/No

If "yes," describe these exposures:

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4. List any second jobs or side businesses you have: \_\_\_\_\_

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5. List your previous occupations:

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6. List your current and previous hobbies: \_\_\_\_\_

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7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No



## RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

8. Have you ever worked on a HAZMAT team? Yes/No
9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them: \_\_\_\_\_

10. Will you be using any of the following items with your respirator(s)?
- a. HEPA Filters: Yes/No
  - b. Canisters (for example, gas masks): Yes/No
  - c. Cartridges: Yes/No
11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:
- a. Escape only (no rescue): Yes/No
  - b. Emergency rescue only: Yes/No
  - c. Less than 5 hours per week: Yes/No
  - d. Less than 2 hours per day: Yes/No
  - e. 2 to 4 hours per day: Yes/No
  - f. Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:
- a. Light (less than 200 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mins.  
Examples of a light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while operating a drill press (1-3 lbs.) or controlling machines.

- b. Moderate (200 to 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mn.  
Examples of moderate work effort are sitting while nailing or filing; driving a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

- c. Heavy (above 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift: \_\_\_\_\_ hrs. \_\_\_\_\_ mn.  
Examples of heavy work are lifting a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment: \_\_\_\_\_

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No



## RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE

16. Describe the work you'll be doing while you're using your respirator(s):

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17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):

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1. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift:

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Duration of exposure per shift:

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Name of the second toxic substance: \_\_\_\_\_

Estimated maximum exposure level per shift:

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Duration of exposure per shift:

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Name of the third toxic substance:

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Estimated maximum exposure level per shift:

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Duration of exposure per shift:

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The name of any other toxic substances that you'll be exposed to while using your respirator: \_\_\_\_\_

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19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well being of others (for example, rescue, security):

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## EMPLOYEE ANNUAL RESPIRATOR FIT-TEST AND TRAINING RECORD

District Name: \_\_\_\_\_

Employee Name: \_\_\_\_\_

Occupation/Job: \_\_\_\_\_

### Respirator Use Information

Work Area(s)

\_\_\_\_\_

\_\_\_\_\_

### Exposure Conditions

Chemicals	Exposure Estimate and PEL/STEL

Emergency Use of Respirators (Member of HAZMAT Team)

☐ Yes ☐ No

Type(s) of Respirator Used

- ☐ Voluntary air purifying ( ☐ half-face or ☐ full-face)
- ☐ Half-face air purifying
- ☐ Full-face air purifying
- ☐ Self-contained breathing apparatus (pressure demand)
- ☐ Airline breathing apparatus (pressure demand)
- ☐ Other; specify what type: \_\_\_\_\_

Air Purifying Cartridges Used

Contaminant	Cartridge Name and Color Code



## EMPLOYEE ANNUAL RESPIRATOR FIT-TEST AND TRAINING RECORD

### Fit-Testing Record

Fit-test Protocol Used (indicate each used if more than one)

☐ Qualitative; Test Substance:

\_\_\_\_\_

☐ Other:

\_\_\_\_\_

☐ Quantitative; Test Method:

\_\_\_\_\_

☐ Other:

\_\_\_\_\_

Respirator(s) Successfully Fitted

<input type="checkbox"/>	Type of Respirator	Brand	Model	Size
<input type="checkbox"/>	Half-face air purifying			
<input type="checkbox"/>	Full-face air purifying			
<input type="checkbox"/>	Self-contained breathing apparatus			
<input type="checkbox"/>	Supplied-air breathing apparatus			
<input type="checkbox"/>	Other, specify:			

Fit Test Certification

Respirator fit testing for the devices indicated in was successfully completed.

Employee: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Tester: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



## EMPLOYEE ANNUAL RESPIRATOR FIT-TEST AND TRAINING RECORD

### Training Record

#### Training Subjects Covered

- Purpose and conditions of respirator use (nature and concentrations of air contaminants known or anticipated).
- Requirements for use--when respirator(s) are required.
- How the device operates--its components and their maintenance.
- Respirator inspection and cleaning procedures and employee obligation for cleaning and maintenance as applicable.
- Chemical cartridge selection criteria, change out frequency and warning signs for break-through and other failures. Instruction to terminate exposure if a problem is detected. [If air-supplied or self-contained, the air supply (pressure gauge) and low pressure alarm should be described and demonstrated.]
- How to properly don each respirator to be used.
- How to conduct self-seal check and that this is mandatory upon each use.
- An explanation of fit-testing procedures.
- An explanation of medical surveillance and procedures.
- Other warnings and precautions as set forth in the manufacturer's instruction, including emphasis that air-purifying respirators do not supply breathing air and must not be used in an oxygen-deficient atmosphere.

#### Training Certification

Training in all of the above topics was successfully completed.

Employee: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Trainer: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Appendix B-1. to Section 5144: User Seal Check Procedures (Mandatory)****Guide to Respiratory Protection at Work**

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The individual who uses a tight-fitting respirator is to perform a user seal check to ensure that an adequate seal is achieved each time the respirator is put on. Either the positive and negative pressure checks listed in this appendix, or the respirator manufacturer's recommended user seal check method will be used. User seal checks are not substitutes for qualitative or quantitative fit tests.

Face piece Positive and/or Negative Pressure Checks.

1. Positive pressure check. Close off the exhalation valve and exhale gently into the face piece. The face fit is considered satisfactory if a slight positive pressure can be built up inside the face piece without any evidence of outward leakage of air at the seal. For most respirators this method of leak testing requires the wearer to first remove the exhalation valve cover before closing off the exhalation valve and then carefully replacing it after the test.
2. Negative pressure check. Close off the inlet opening of the canister or cartridge(s) by covering with the palm of the hand(s) or by replacing the filter seal(s), inhale gently so that the face piece collapses slightly, and hold the breath for ten seconds. The design of the inlet opening of some cartridges cannot be effectively covered with the palm of the hand. The test can be performed by covering the inlet opening of the cartridge with a thin latex or nitrile glove. If the face piece remains in its slightly collapsed condition and no inward leakage of air is detected, the tightness of the respirator is considered satisfactory.
3. Manufacturer's Recommended User Seal Check Procedures. The respirator manufacturer's recommended procedures for performing a user seal check may be used instead of the positive and/or negative pressure check procedures provided that the employer demonstrates that the manufacturer's procedures are equally effective.

**Appendix B-2. to Section 5144: Respirator Cleaning Procedures (Mandatory)**[Guide to Respiratory Protection at Work](#)

These procedures are provided for employer use when cleaning respirators. They are general in nature, and the employer as an alternative may use the cleaning recommendations provided by the manufacturer of the respirators used by their employees, provided such procedures are as effective as those listed here in Appendix B-2. Equivalent effectiveness simply means that the procedures used must accomplish the objectives set forth in Appendix B-2, i.e., must ensure that the respirator is properly cleaned and disinfected in a manner that prevents damage to the respirator and does not cause harm to the user.

**Procedures for Cleaning Respirators.**

1. Remove filters, cartridges, or canisters. Disassemble face pieces by removing speaking diaphragms, demand and pressure-demand valve assemblies, hoses, or any components recommended by the manufacturer. Discard or repair any defective parts.
2. Wash components in warm (43 deg. C [110 deg. F] maximum) water with a mild detergent or with a cleaner recommended by the manufacturer. A stiff bristle (not wire) brush may be used to facilitate the removal of dirt.
3. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain.
4. When the cleaner used does not contain a disinfecting agent, respirator components should be immersed for two minutes in one of the following:
5. Hypochlorite solution (50 ppm of chlorine) made by adding approximately one milliliter of laundry bleach to one liter of water at 43 deg. C (110 deg. F); or,
6. Aqueous solution of iodine (50 ppm iodine) made by adding approximately 0.8 milliliters of tincture of iodine (6-8 grams ammonium and/or potassium iodide/100 cc of 45% alcohol) to one liter of water at 43 deg. C (110 deg. F); or,
7. Other commercially available cleansers of equivalent disinfectant quality when used as directed, if their use is recommended or approved by the respirator manufacturer.
8. Rinse components thoroughly in clean, warm (43 deg. C [110 deg. F] maximum), preferably running water. Drain. The importance of thorough rinsing cannot be overemphasized. Detergents or disinfectants that dry on face pieces may result in dermatitis. In addition, some disinfectants may cause deterioration of rubber or corrosion of metal parts if not completely removed.
9. Components should be hand-dried with a clean lint-free cloth or air-dried.
10. Reassemble face piece, replacing filters, cartridges, and canisters where necessary.
11. Test the respirator to ensure that all components work properly.



## **Appendix D to Section 5144: (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard**

### [Guide to Respiratory Protection at Work](#)

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard. You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designated to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.



## PERIODIC RESPIRATOR PROGRAM EVALUATION

Person Performing Evaluation: \_\_\_\_\_

Program Administrator: \_\_\_\_\_

Date of Last Evaluation: \_\_\_\_/\_\_\_\_/\_\_\_\_

Date of This Evaluation: \_\_\_\_/\_\_\_\_/\_\_\_\_

### Review of Written Program

Is written program up-to-date?

☐ Yes ☐ No If no, what changes are needed?

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Have there been any changes in respirator use or exposure conditions since the last review?

☐ Yes ☐ No If yes, summarize the changes:

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Are all personnel responsible for the respirator program properly listed?

☐ Yes ☐ No If no, what changes should be made?

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### Observation of Respirator-using Employees

When asked, are employees satisfied and comfortable with respirator use and the employer's program?

☐ Yes ☐ No If no, what problems need to be corrected?

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Are respirators in use, properly fitted (check for obvious poor fits, facial hair, other interferences)?

☐ Yes ☐ No If no, fit-testing should be required:

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Are respirators in use, appropriate for exposure conditions and required work?

☐ Yes ☐ No If no, what problems should be corrected?

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Are respirators in use, fitted with the proper cartridges?

☐ Yes ☐ No If no:

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## PERIODIC RESPIRATOR PROGRAM EVALUATION

Are respirators in use, properly maintained in terms of sanitation, parts in place, etc.?

☐ Yes ☐ No If no:

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### Respirators In Storage

Are all respirators in storage in sealed plastic bags and properly stored?

☐ Yes ☐ No If no:

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If an emergency device, is the unit being inspected monthly, and is this inspection specifically documented with a tag or otherwise?

☐ Yes ☐ No If no:

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Are all SCBA air tanks on devices not in use and tanks in storage filled to 90% of capacity?

☐ Yes ☐ No If no:

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### Documentation Review

Are records available indicating initial and/or respirator fit-testing and training for all users within the past 12 months?

☐ Yes ☐ No If no:

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Are there initial medical evaluation documents for all employees who use respirators?

☐ Yes ☐ No If no:

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Is there a need for more frequent periodic evaluations for any employee or group of employees?

☐ Yes ☐ No If yes:

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Signed: \_\_\_\_\_ Date: \_\_\_\_\_

## RESPIRATORY PROTECTION BASED ON HISTORICAL AIR MONITORING

**Note:** Evaluate All Operations Not Listed Below And Those Utilizing Technology Applied Developed After June 1998

<u>OPERATION</u>	<u>HAZARD ASSESSED</u>	<u>RESPIRATORY PROTECTION REQUIRED</u>	<u>RESPIRATORY PROTECTION NOT REQUIRED</u>
<b>Hauling</b>			
Driver - Special Wastes	new materials		X
Driver - Asbestos	as needed		X
Dusts			X
<b>Landfill / Transfer</b>			
Driver site truck	dust/silica		X
Driver water truck	dust/silica		X
Gas plant / gas recovery			X
Laboratory personnel	methylene chloride	NA	NA
Loaders - transfer / tipping	dust/silica		X
Operator compactor		NA	NA
Operator landfill equipment	dust/silica		X
Spotter - transfer / tipping	dust/silica		X
Operator track loader/transfer	new methods (non-friable asbestos)	NA	NA
<b>Maintenance</b>			
Mechanic - hauling Container Repair	lead in old container paint		X
Mechanic - hauling Truck Body Repair (inside truck bodies)	fume, copper electrodes inside bodies	X	
Painter - Water Reducible Paint			X
Painter - Solvent based Paint	solvents	X	
Mechanic -landfill			X
Mechanic - MRF			X
<b>Material Recovery Facility</b>			
Baler operator	dusts	NA	NA
Forklift/bobcat operator	dusts		X
Sorters - Recycle Line	dusts	NA	NA
Sorters - Commingle MRF	dusts		X
Ticket collector MRF	dusts/silica		X

**Note:**

- Data collected in over ten years of monitoring routine, non-routine and “worst case” workplace exposures show results of airborne concentrations of dusts, mists, fumes, vapors and gases are routinely below 10% of their respective PELs.
- Exposures may exceed action levels or PELs from solvent based paint, carbon arc welding inside truck bodies, and in dusty areas where high levels of airborne road dust contain 10% silica sand (on some landfill haul roads and on some tipping floors).
- Continue to assess non-routine operations and new methods to ensure sampling results are representative, adequate engineering controls are in place and proper PPE is selected.
- NA=SUFFICIENT DATA TO EVALUATE NOT AVAILABLE